DOCUMENT RESUME

ED 237 935 CS 007 419

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TITLE An Analysis of Responses during Reading Comprehension Lessons.
PUB DATE 11 Apr 83
NOTE 23p.; Paper presented at the Annual Meeting of the American Educational Research Association (Montreal, Canada, April 11-15, 1983).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Academic Aptitude; Classroom Communication; Elementary Education; *Questioning Techniques; *Reading Comprehension; *Reading Instruction; *Reading Research; *Student Reaction; Student Teacher Relationship; Teacher Effectiveness; Teacher Response; *Teacher Role; Teaching Methods; Urban Education

ABSTRACT

A study examined the types of questions teachers asked and the types of responses they elicited from prestory and poststory portions of reading comprehension lessons. The Question Response Interaction instrument was used to gather data from teachers and their inner city third, fourth, and sixth grade students in both high and low reading groups. Data were categorized according to question-response relationships, levels of responses, and types of responses. Question-response relationships were termed textually explicit, textually implicit, and scriptally implicit. Levels of responses were referred to as supported (in which the student used text examples, personal experiences, and so forth) and unsupported (in which the student gave no response or failed to qualify a response.) Types of responses were classified as purpose, verification, justification, and judgment. Findings supported previous research showing that low reading groups are asked more textually explicit questions and supply more unsupported responses than do high reading groups. The types of questions asked indicated that while comprehension assessment was taking place, comprehension instruction was not. (FL)

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An Analysis of Responses During Reading Comprehension Lessons

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Presented at a Symposium entitled
"Student Responses to Questioning"
at the American Educational Research Association
Annual Meeting in Montreal, Canada
April 11, 1983

CS 007419

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In this descriptive study, the investigator examined the types of responses elicited from elementary school students and the types of questions elicited from in-service and pre-service teachers during pre story and post story portions of reading comprehension lessons. Solicitation patterns of student/teacher interactions were examined. If comprehension instruction was present, then the investigator expected open-ended or probing questions to be evidenced. If comprehension assessment was present, then the investigator expected closed questions eliciting short, covert responses for the purpose of recall information. The investigator used a format suggested by Ruddell (1974) for the Question-Response Interaction (QRI) instrument. The categories of comprehension (textually explicit, textually implicit and scriptally implicit), suggested by Pearson and Johnson (1978), were used.

An examination of the literature noted the need for the investigator to determine the types of student/teacher patterns taking place during the

question-asking sessions of reading comprehension lessons. The cited research suggested that teachers' questions, while at times getting a response, rarely asked the students to explain or justify that response. The research also noted that teachers should build upon the child's background knowledge while using the strategy of questioning. The teacher's questions should, in effect, relate the child's background knowledge to the text. These types of interaction patterns are important if a child is expected to gain meaning from the text. By examining these interaction patterns, new information can be gained regarding the kinds of questions elicited from teachers and the kinds of responses elicited from students.

Review of Literature

Analysis of Student Responses. Durkin (1978), Gall (1972), Guszak (1966), Jenkinson (1969), noted that questioning by teachers was the most frequently used strategy as opposed to cloze, maze, and others. Durkin (1979) observed that teachers spent a great deal of time asking assessment type questions during the reading comprehension lesson. These questions required short responses. Thus, opportunities for student elaboration

were limited. This has been documented by the National Assessment of Educational Progress (1981) which noted that student responses to teacher questions were usually short. These student responses contained little, if any, justification or judgmental comments with supporting information.

Gall (1972) noted that there had been very little change in the types of teacher questions (p. 15). He explained that researchers need to look at the complex relationships existing between questioning and responses. "Reading researchers need to become involved in this effort in order to discover relationships that are specifically applicable to reading instruction" (p. 23).

Gall's research studied teacher questioning procedures and he discovered that

> ...about 60% of teachers' questions require students to recall facts; about 20% require students to think; and the remaining 20% are procedural (p. 15).

He further noted that:

> research on ...frequency (of questions) in reading classes of behavioral types would fill in a gap in our knowledge...researchers

should also be concerned with the issues of how a teacher responds to student questions, and the role that these questions play in reading instruction (p. 18).

One of the most complete research studies done on questioning was by Guszak (1966). The purpose of his study was "...to describe teacher-pupil solicitations and response activity relative to reading content" (p. 129). The solicitation interaction was observed in grades two, four and six of top, middle and low reading groups. Guszak developed an assessment instrument which was an inventory of solicitations and response outcomes. He found that out of a total of 1,857 solicitations, 1,056 were recall in nature.

In regard to the groups, he found that the lower reading groups had a higher percentage of literal comprehension activity. "Literal comprehension solicitation activity tends to decline with advancing group levels in the fourth and sixth grades although such a pattern was not apparent in the second grade" (Guszak, 1966, p. 138). Guszak seems to recommend further examination of teacher-pupil solicitation response patterns, and an examination of teacher

education of both pre and in-service teachers, whereby the role patterns that extend comprehension outcomes of students are noted (pp. 147-152).

Guszak (1969) described four question combinations that were developed to relate the question to the responses. There were: Setting, Purpose or Follow-up, Verification, Justification, and Judgmental. The first combination described the questions used to set up purpose for reading in the pre story portion of the lesson. These responses employed the children's experience as they prepared for the story. It also provided a category for the questions that were used during the follow-up portion of the post story reading lesson. The second response combination required the student to locate the answers directly from the text. The third combination required the student to justify explanations or conjectures. The last combination required the student to evaluate the response to the previous question. This last combination was non-existant according to Guszak (1969).

Jenkinson (1969) noted that teachers need to ask questions requiring greater depth and variety. One should not assume that comprehension has taken place

because of a correct response. Jenkinson suggested that teachers examine the response errors made by students.

Evertson, Anderson, Anderson, & Brophy (1980) conducted a study with junior high mathematics teachers using process questions. They found that process questions had a direct and positive relationship to the math achievement of their students. These process questions, which relied on the students' bank of information, required students to respond with explanations and justifications. Unfortunately, many of the teachers in the study used the product questions whereby only a correct or short answer response was acceptable. These product questions, although necessary, constituted the majority of questions asked by the junior high math teachers.

Bozsik (1982) observed that question types for high level reading groups differed from low level reading groups in that the high groups were given questions that required textually implicit responses, whereas the low groups were given textually explicit questions that required short and unsupported responses.

Methodology

The Question Response Interaction (QRI) instrument

was used to gather data (see Bozsik 1981, 1982). The descriptive categories were question-response relationships, levels of responses, and the types of responses.

The question-response relationships were termed textually explicit (information directly from the text), textually implicit (combination of text and experience), and scriptally implicit (information solely from the student's script or experience). These relationships were suggested by Pearson and Johnson (1978) as an alternate method for describing questions.

The levels of responses were referred as supported or unsupported. In the supported response (S), the student used text examples, own experience, etc. to prove a point or position. Any unsubstantiated response or failure to qualify a response was termed unsupported (U).

The types of responses were purpose (P), verification (V), justification (Jst), and judgmental (Jmt). Purpose (P) responses were of a yes/no or true/false variety. These responses were unsupported (UP). The verification (V) responses were composed of one or more works which could be supported or unsupported. Justification (Jst) responses were explanations or elaborations.

Judgmental (Jmt) responses were evaluative. These responses required the subjects to judge the material read.

The investigator and a group of trained observers recorded the responses on the Question Response Interaction (QRI) instrument. Reliability, validity and training of observers is explained in Bozsik 1981, 1982. The subjects were inner-city elementary school students in grades three, four and five. Pre story and post story portions of reading comprehension lessons were examined. Pre story was the introductory portion which included setting the purpose for reading, vocabulary and motivation. The post story was the discussion which followed the reading of an assigned story in the basal text.

Interaction blocks ranging in size from two to ten were examined for all pre and post story portions. The interaction block was defined as a length of questions and responses dealing with one topic (Bozsik 1981, p. 11).

Discussion and Results

For the following results, please refer to Table 1.

Two Block Interactions

The pre story portions for low and high reading groups showed a higher percentage (66.5%) of textually explicit questions for the low group versus 58.7% for the high group. More textually implicit questions were observed for the low reading groups (13.4%) than for the high reading groups (11.0%) but the difference of 2.3% is slight. The high reading groups had more scriptally implicit questions (30.3%) than the low reading group (20.1%).

The unsupported responses for the low groups (UP + UV) were 64.7% and the supported responses (SV + S Jst) were 18.4%. The unsupported responses for the high groups (UP + UV) were 78.0% and the supported responses (SV + S Jst) were 12.1%

The post story portions for the low and high reading groups showed a high percentage of textually explicit questions for the low groups (60.8%) than for the high group (45.2%). More textually implicit questions were observed for the high groups (33.3%) than for the low groups (17.5%). The scriptally implicit questions were nearly equal with 21.7% for low groups and 21.4% for high groups.

The unsupported responses for the low groups (UP + UV) were 46.8% and the supported responses (SV + S Jst + S Jmt) were 32.9%. The unsupported responses for the high groups (UP + UV) were 54.1% and the supported responses were (SV + S Jst + S Jmt) 41.8%.

Three Block Interactions

The pre story portions for low and high reading groups showed a higher percentage of textually explicit questions for the high groups (57.1%) than for the low groups (44.7%). The low groups had more textually implicit questions (25.5%) than the high groups (10.7%). The high groups had more scriptally implicit questions with 32.2% compared to 29.8% for the low groups.

The unsupported responses for the low groups were 86.3% and supported responses were 8.1%. The unsupported responses for the high groups were 57.1% and 42.8% for supported responses.

The post story portions for the low groups showed 61.3% of textually explicit questions as opposed to 64.3% for the high groups. The textually implicit questions for the low groups were 29.5% while 21.4% for the high groups. The low groups had 9.1% scriptally implicit questions whereas the high groups had 14.3%.

The unsupported responses for the low groups were 37.1% and the supported responses were 45.2%. The unsupported responses for the high groups were 38.1% and the supported responses were 47.5%.

Four Block Interactions

The pre story portions for low and high reading groups showed a higher incidence of textually explicit questions (65.6%) for the low groups while for the high groups it was 46.5%. More textually implicit questions were given to the high groups with 23.2% while the low groups had 12.2%.

The unsupported responses for the low groups were (UP + UV) 60.6% and supported responses were 27.5%. The unsupported responses for the high groups were (UP + UV) 55.1% and the supported responses were 33.3%.

The post story portions showed that there was a higher incidence of textually explicit questions (62.0%) for the low groups while for the high groups it was 45.5%. Textually implicit questions were higher for the high groups (38.0%) as compared to the low groups with 17.7%.

The unsupported responses (UP + UV + U Jmt) for the low groups were 49.2% and the supported responses (SV + S Jst) were 38.9%. For the high group, the

unsupported responses were (UP + UV) 43.4% and the supported were (SV + S Jst + S Jmt) 48.0%.

Five Block Interactions

The pre story portions for low and high reading groups showed a higher incidence of textually explicit questions (66.6%) for the high groups or 66.6% versus 57.7% for the low groups. Interestingly, the low groups had a higher percentage for textually implicit questions (11.5%) when compared to the high groups with 4.7%.

The unsupported responses for the low groups (UP + UV) were 34.3% and supported responses (SV + S Jst) 42.8%. The unsupported responses for the high groups (UP + UV) were 44.0% and the supported were (SV) 32.0%. However, I call attention to the *Other category which had an unusually high incidence of responses that did not conform to any defined category.

The post story portions showed an almost even distribution of questioning types for both groups. Textually explicit questions for the low groups were 59.2% while for the high groups it was 58.9%. Textually implicit questions for the low groups were 24.5% while for the high groups it was 30.7%. Scriptally implicit questions for the low groups were 16.3% while for the

high groups it was 10.2%.

The unsupported responses for the low groups (UP + UV) were 44.6% and the supported responses (SV + S Jst) were 49.9%. The unsupported resporses (UP + UV + U Jmt) for the high groups were 35.1% and the supported responses (SV + S Jst) were 57.3%.

Six Block Interactions

The pre story portions for low and high reading groups showed a higher incidence of textually explicit questions (58.5%) for the low groups versus 46.3% for the high groups. For textually implicit questions, the low groups had a higher percentage (24.4%) than the high groups with 18.8%. The scriptally implicit questions were 17.0% for the low groups versus 34.7% for the high groups.

The unsupported responses for the low groups (UP + UV) were 63.4% and the supported responses were 19.3%. The unsupported responses for the high groups (UP + UV) was 53.5% and the supported responses were (SV + S Jst) 25.1%.

The post story portions showed that textually explicit questions for the low groups (65.6%) were

higher than for the high groups with 56.4%. Textually implicit questions for the low groups were 15.1% and 29.2% for the high groups. Scriptally implicit questions were 19.2% for low groups and 14.2% for the high groups.

The unsupported responses for the low groups were (UP + UV) 45.0% and the supported responses were (SV + S Jst) 16.0%. Note the category labelled *Other which has a high level of responses with 39.0%.

The unsupported responses for the high groups were (UP + UV + U Jst) 45.5% and the supported responses were (SV + S Jst) 42.6%.

Interaction blocks two, four and six were observed more frequently than blocks three and five. The former blocks followed a regular teacher question-child response pattern (TQ-CR-TQ-CR) whereas the latter blocks were observed as TQ-CR-CR and TQ-CR-TQ-CR-CR. The regular pattern of TQ-CR-TQ-CR was found in the even interaction blocks of two, four and six. The interaction blocks of three and five were observed infrequently.

If the category termed *Other was included with the unsupported responses then the low groups would have a higher percentage of unsupported responses in interaction blocks three through six with the only exception

being block two of the pre story portions. The post story portions for unsupported responses would also be higher for the low groups without exception.

Summary

The study's findings concurred with Durkin (1975), Gall (1972) and Guszak (1966) that the low reading groups are asked more textually explicit questions. This observation was particularly evidenced in interaction blocks two, four and six.

More supported responses were noted for the high groups during post story portions (discussion of story) or as the lesson progressed. This observation concurred with Browne (1971).

Implications

The findings indicated that the percentage of textually explicit questions coupled with the percentage of unsupported responses concurred with Durkin's (1975) contention that teachers used questions for comprehension assessment and not for comprehension instruction. This observation implied that the low groups need to learn how to support their responses using either the text or their own experience.

As reading lessons progressed from pre story to

post story, more unsupported responses for the low groups were evidenced during post story. A slightly higher incidence of supported responses were noted during pre story. This observation implied that the low groups could respond from an already familiar experiential base which the pre story portions by definition would extract.

Some of the questions posed by teachers in interaction blocks four or higher are not related to the students' previous responses. This observation implied that comprehension assessment was taking place but comprehension instruction was not.

Some of the textually explicit questions required one word responses whereas other textually explicit questions required supported responses. This observation implied that the responses were not dependent upon the questions posed.

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TABLE 1

NOTE FREQUENCY AND PERCENTAGE DATA FOR RESPONSES IN INTERACTION BLOCKS TWO THROUGH SIX

Interaction Block	Study Type	Reading Groups	N Ques	Text Expl	Text Impl	Script Impl	N Resp	UP	UV	SV	I 1st	S 1st	U Int	S Int	* Other	Unsupported Responses	Supported Responses
2	Pre	Low	195	66.5	13.4	20.1	173	42.2	22.5	17.3		1.1			16.9	64.7	18.4
2	Pre	High	107	58.7	11.0	30.3	91	51.6	26.4	9.9		2.2			9.9	78.0	12.1
2	Post	Low	143	60.5	17.5	21.7	115	34.7	12.1	30.4		1.7		0.8	20.3	46.8	32.9
2	Post	High	94	45.2	33.3	21.4	74	25.7	29.4	29.7		8.1		4.0	4.1	54.1	41.8
3	Pre	Low	47	44.7	25.5	29.8	22	86.3				9.1			4.6	86.3	9.1
3	Pre	High	28	57.1	10.7	32.1	21	47.6	9.5	42.8					0.1	57.1	42.8
3	Post	Low	44	61.3	29.5	9.1	62	8.1	29.0	35.5		9.7			17.7	37.1	45.2
3	Post	High	14	64.3	21.4	14.3	21		28.6	42.8		4.7	9.5		14.4	38.1	47.5
4	Pre	Low	163	65.6	12.2	22.1	145	27.5	33.1	26.2		1.3			11.9	60.6	27.5
4	Pre	High	99	46.5	23.2	30.3	78	25.6	29.5	32.0				1.3	11.6	55.1	33.3
4	Post	Low	158	62.0	17.7	20.2	134	23.1	23.1	30.6		8.3	3.0		11.9	49.2	38.9
4	Post	High	134	45.5	38.0	16.4	131	19.8	23.6	30.5		13.7		3.8	8.6	43.4	48.0
5	Pre	Low	26	57.7	11.5	30.7	35	14.3	20.0	37.1		5.7			22.9	34.3	42.9
5	Pre	High	21	66.6	4.7	28.6	25	16.0	28.0	32.0					24.0	44.0	32.0
5	Post	Low	49	59.2	24.5	16.3	56	14.3	30.3	32.1		17.8			5.5	44.6	49.9
5	Post	High	37	58.9	30.7	10.4	54	11.1	14.8	51.8		5.5	4.2		7.6	35.1	57.3
6	Pre	Low	94	58.5	24.4	17.0	93	19.3	44.1	18.3		1.0			17.3	63.4	19.3
6	Pre	High	69	46.3	18.8	34.7	56	25.0	28.5	21.4		3.7			21.4	53.5	25.1
6	Post	Low	99	65.6	15.1	19.2	98	21.0	24.0	11.0		5.0			39.0	45.0	16.0
6	Post	High	134	56.4	29.2	14.2	147	22.4	19.0	36.6	4.1	6.5			11.7	45.5	48.6

*Other - A category of responses which include passage reading, no response from the subject, and non-verbal responses (e.g. pointing

TABLE 2

PERCENTAGE DATA FOR RESPONSES DURING PRE STORY AND POST STORY

Interaction Block	Group	PRE			POST		
		*Other	Unsupported	Supported	*Other	Unsupported Responses	Supported Responses
2	Low	16.9	64.7	18.4	20.3	46.8	32.9
2	High	9.9	78.0	12.1	4.1	54.1	41.8
3	Low	4.6	86.3	9.1	17.7	37.1	45.2
3	High	0.1	57.1	42.8	14.4	38.1	47.5
4	Low	11.9	60.6	27.5	11.9	49.2	38.9
4	High	11.6	55.1	33.3	8.6	43.4	48.0
5	Low	22.9	34.3	42.8	5.5	44.6	49.9
5	High	24.0	44.0	32.0	7.6	35.1	57.3
6	Low	17.3	63.4	19.3	39.0	45.0	16.0
6	High	21.4	53.5	25.1	11.7	45.5	42.6

*Other - A category of responses which include passage reading, no response from the subject, and non-verbal responses e.g. pointing or nod of head